CERES/MODIS Channels

19 Bands from MODIS 1KM L1B product:

Band 1 (nm)	620-670 (nm)	Band 23	4020-4080
Band 2 (nm)	841-876 (nm)	Band 26	1360-1390
Band 3 (nm)	459-479 (nm)	Band 27	6535-6895
Band 4 (nm)	545-565 (nm)	Band 29	8400-8700
Band 5	1230-1250 (nm)	Band 31	1078-1128 (nm)
Band 6	1628-1652 (nm)	Band 32	1177-1227 (nm)
Band 7 (nm)	2105-2155 (nm)	Band 33	13185-13485
Band 17 (nm)	890-920 (nm)	Band 34	13485-13785
Band 20 (nm)	3660-3840 (nm)	Band 35	13785-14085

CERES/MODIS L1B Subset

- Subset output in 2km resolution
- Scan/Pixel Subsampling

MODIS 1KM L1B input data:

Scan: Select one (1) from from every two (2) scans

Pixel: Select one (1) pixel from every two (2) pixels

MODIS QKM L1B input data:

Scan: Select four (4) from every eight (8) scans

Pixel: Select all pixels

MODAPS/LPEATE-ASDC Interface

- Present Interface
  - All subscription data are pushed by MODAPS to ASDC Ingest server (tabitha), about 90 GB per day.
  - ExternalDiskSpace monitor function has been set up so MODAPS will pause the data push automatically when destination disk is about full.

- Future Interface
  - ASDC agrees to implement EOSDIS SIPS PDR-PAN interface in their new Ingest system (ANGe).
  - Disk partition reserved for ASDC on PDR server
  - EOSDIS SIPS Interface document provided to ASDC (Chris Harris) in July 2007.
  - Current status unknown.

CERES/NPP VIIRS Channels

Channel	λc(nm)	Δλ(nm)	Wavelength Type	Radiance Type	Spatial Resolution Type	Focal Plane Assembly
M5 √	672	20	VIS	Reflective	Moderate	VISNIR
M7 √	865	39	NIR	Reflective	Moderate	VISNIR
M9 √	1378	15	SWIR	Reflective	Moderate	SMWIR
M10 √	1610	60	SWIR	Reflective	Moderate	SMWIR
M11 √	2250	50	SWIR	Reflective	Moderate	SMWIR
M12 √	3700	180	MWIR	Reflective	Moderate	SMWIR
M13 √	4050	155	MWIR	Emissive	Moderate	SMWIR
M14 √	8550	300	LWIR	Emissive	Moderate	LWIR
M15 √	10763	1000	LWIR	Emissive	Moderate	LWIR
M16 √	12013	950	LWIR	Emissive	Moderate	LWIR

- Any Imagery Channels needed?
- More Moderate channels?

CERES/VIIRS SDR Subset

- Aggregate 48-sec VIIRS SDR granules of the required 10 moderate channels into 5-min granules (288 per day)
  - Need GEO data embeded or separate 5-min aggregate GEO data?
- Convert VIIRS SDR aggregate granules from HDF 5 to EOS-HDF 4.5
- Scan/Pixel subsample: Use every 3rd pixel and every 3rd scan (2.146 km x 2.146 km subset, reduces volume to 1/9th), or more sophisticated method
- Reduced volume of 16.3GB/day is based on using every granule

Land PEATE to LaRC

Product	Files	GB	Comment
Subsetted SDR	288/day	16.3	SDR 750m bands, every 3rd pixel by every 3rd scan
Geolocation in SDR	288/day	21.8	ellipsoidal geolocation, every 3rd pixel by every 3rd scan
Aerosol EDR	160/day*	50.2	Aerosol EDR, 1.6km at end of swath Ocean, 9.6 km x 9.6km grid Land
CERES RDR	6/day	.2	Per ESDIS S/E (includes aft and fore) based on Terra CERES
Spacecraft telemetry	N/A	0.0	Included in RDR
VIIRS DDR	1/week	3.5	Snow/Ice cover Map gridded Level 3 8-day
Total	748	92GB	Peak volume and files on the day that the weekly file is shipped, average vol. is 89GB

* Day granules 55% of orbit includes day-only and mixed granules

MODIS products sent to LaRC for use in CERES processing

Product (ESDT)	Files/day	GB/day*	Comment
M[YD02SS1 Aqua L1B SS	288	9.7	Level 1B 1 km bands, every 2nd pixel by every 2nd scan
MYD03 Aqua Geoloc.	288	7.1	Geolocation for 5 minute granules, geolocation for 1km bands
MYD04_L2 Aqua Aerosol	288	.18	Aerosol product, no subsetting
MYD08_D3 MODIS L3 Daily	1	.09	Global 1° x 1° equal angle grid, statistical summaries for 80 atmosphere science parameters

* Both Aqua and Terra MODIS products are sent to LaTIS. Current volume shipped is twice the Aqua MODIS volume above. Product details at http://modis-atmos.gsfc.nasa.gov/